From: Tasya Gray
To: Knittel, Janette
Subject: RE: questions on proposed additional sampling - Rhone-Poulenc/Container Properties
Date: Tuesday, February 15, 2022 7:25:47 AM
Attachments: 2022-02-10 Response to comments tables.pdf

Hi Janette,
I inserted answers to your questions below in *blue italics*. Related tables referenced in the responses are attached.
Look forward to working on next steps.
Tasya

From: Knittel, Janette <Knittel.Janette@epa.gov>
Sent: Monday, January 24, 2022 3:21 PM
To: Tasya Gray <ngray@dofnw.com>
Cc: Tahiry, Howasta <Tahiry.Howie@epa.gov>; 'King, Aaron S CIV USARMY CENWK (USA)' <Aaron.S.King@usace.army.mil>
Subject: questions on proposed additional sampling - Rhone-Poulenc/Container Properties

Hi Tasya,
I've talked with Howie and Aaron about the additional sampling proposed in the progress report you sent on January 10. We have a few questions that we'd like you to answer. Apologies if you had already covered some of this during our meeting on December 17.

1. Please provide one table that presents the additional sample locations and analyses along with those to be collected in the upcoming Round 95 event.

The requested draft summary table for the Round 95 event is attached as Table 1. We will include a final draft with the February monthly report submitted March 10th.

2. Explain to us your justification for not collecting additional dioxin/furan analysis during this upcoming round, given the detections in wells MW-38R and MW-47.

The very low levels of dioxins/furans (D/F) detected in wells MW-38R and MW-47 are:

A) not indicative of a significant source to groundwater on Container Properties shoreline/ nearby uplands, and

B) not likely a significant source to the LDW sediments which have more significant dioxin/furan sources already documented (D/F in sediments from upstream sediment transport).

Therefore no additional testing was proposed at this time. That assumption is currently based on:

- *The groundwater concentrations at the site (0.03 to 0.07 D/F TEQ pg/L) are orders of magnitude less than the sediment detections in the tideflats (15,000 to 364,000 D/F TEQ pg/kg), and thus not likely indicative of a nearby significant source of D/F.*
- *The sediment concentrations in the tideflats are easily within the range of concentrations that have been shown to be coming from sources upstream of the turning basin.*
    - *From LDW ROD/USGS 2017 Loading study*
        - *Bed Composition Model Input (what's coming from upstream of the turning basin at river kilometer 8) - Input value- 4,000 D/F TEQ pg/kg, min 2,000 max 8,000 D/F TEQ pg/kg*
        - *Upstream loading data (samples at river kilometer*

16.7, just after Green and Black Rivers merge together)

- *Suspended sediment loading- 2,890,000 to 172,000,000 D/F TEQ pg/hr*
- *Whole water loading estimates- 119,000,000 to 430,000,000 D/F TEQ pg/hr*

- *The groundwater data is more indicative of a source farther away or background when compared to a known D/F cleanup site identified in Ecology's EIM database (Glacier NW site at River KM 2).*
    - *Groundwater onsite- 0.003 (~300 to 500 feet from suspected source area) to 7.68 (0 to 150 feet from suspected source area) D/F TEQ pg/L*

We plan to continue to examine data being generated in relation to the LDW site and nearby D/F investigation and cleanup, but current data do not indicate that concentrations present at the site in groundwater pose a risk to source control for the LDW cleanup.

3. Explain the metals chosen for analysis per Table 3 from the progress report. For example, why is copper not an analyte for Total Metals; why is chromium listed but not chosen for any of the sampling locations; and why were certain metals included but others like mercury were not?

The metals chosen for additional analysis were selected through comparison of 2021 data against the Draft PRGs. We prepared the attached Table 2 to summarize the data comparison.

- *Aluminum, lead, and thallium – not detected above a 2020 draft PRG anywhere; not proposed for additional sampling.*
- *Arsenic, cadmium, vanadium, and zinc – detected sporadically above draft PRGs; dataset would benefit from more data points across the northern/central portion of the site in between previously sampled locations.*
- *Copper – much lower than historically detected, only exceeding draft PRGs protective of surface water protection; therefore, additional testing focused in the area of the site where copper remains higher in concentration (> 40 ug/L) near Slip 6.*
- *Chromium – only elevated above a draft PRG at wells MW-43 and IMW-IA-D where other metals detected more broadly were also elevated and wells surrounding showed levels below PRG.*
- *Mercury, nickel, and selenium – higher concentrations were detected at wells regularly monitored.*
- *Iron, magnesium, manganese, and silica – specific to evaluating geochemistry in the area of the site where copper remains higher in concentration.*

4. Justify why sampling would not be necessary for SVOCs besides pentachlorophenol. The last bullet on Slide 16 in the December 17 PowerPoint says, "Other SVOCs were generally below PRGs with a few exceptions where detections were still quite low." Why were these other SVOCs excluded? Locations like B6 and EX-1 had exceedances of SVOCs that were not pentachlorophenol, therefore it would not be appropriate to only use pentachlorophenol as a driver.

The SVOCs chosen for additional analysis were selected through comparison against the Draft PRGs. We prepared the attached Table 3 to summarize the data comparison. The only SVOCs detected above a 2020 draft PRG were:

- *Benzo(a)anthracene*
- *Benzo(a)pyrene*
- *Benzo(b)fluoranthene*
- *Indeno(1,2,3-cd)pyrene*
- *Naphthalene*
- *Pentachlorophenol*

Of these, only naphthalene and pentachlorophenol were detected above a draft PRG protective of both surface water and groundwater/drinking water. The rest were only detected at B6 and MW-44 and only above the draft PRG protective of surface water. These compounds were not viewed as drivers for additional SVOC characterization because they were not detected at the majority of wells and were only detected at concentrations near the method detection limit achievable by the laboratory. These results are consistent with the historical data which did not routinely detect SVOCs other than pentachlorophenol at the site.

5. For the NAPL assessment, why were SVOCs and PCBs chosen for the NAPL analysis, and why was petroleum hydrocarbon analysis not selected? Also, why would groundwater from MW-12 not be sampled for SVOCs anyway?

Petroleum was not selected because we tested water purged from MW-12 that exhibited potential NAPL in 2021 for petroleum as part of waste designation for that water. The petroleum analysis indicated mineral oil range petroleum but not a weathered diesel or fuel oil. Water was non-detect for BTEX and otherwise only showed extremely low levels of any other VOCs and PCBs.

6. As a reminder, ensure that all analytical methods including those for geochemical parameters are covered by the approved QAPP.

Agreed, no new parameters are being considered so the approved QAPP will apply to this event.

Let me know if you need me to clarify any of our questions/comments.
Regards,
Janette

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